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ABSTRACT

The trajectory of an English professor's scholarly interests has always involved emotion. From the simple question she asked herself during her graduate study (what do we feel?), she moved to the beneficial psychological effects of writing, then onto empirically identifying the emotions involved in writing, to discussions of social emotions, to an emotional/cognitive continuum of emotion to where she is now--the deepest and most empirical root of emotion--the brain. Neuroscience research has discovered that nerve pathways lead directly to a small structure buried in the brain called the amygdala and that signals reach the amygdala 40 milliseconds before it reaches the intellectual part of the brain. Cognition, emotion, memory, and language come together in the brain, and that is why it should be studied. The amygdala influences what gets stored and the strength with which it gets stored because it "reads" emotion. The field of English has studied language from virtually every vantage point except from that of its potential for emotional intelligence. Little has been done to make visible and acceptable the salutary effects of emotion in writing education. As central as cognition is, without emotion, memory and learning could not occur. (Contains 43 references.) (RS)

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ED 428 388

Keynote Address given before the Assembly for Expanded Perspectives on Learning CCCC, Atlanta, 1999

Writing, Emotion, and the Brain: What Graduate School Taught me about Healing

When Jerry sent me today's program, It came as no surprise that I recognized fewer and fewer names from when I entered the profession in 1975, when emotion loomed large in my life and I understood so little of it, of what I felt, of what I did. How it takes us an entire professional life to figure things out and then have no time to apply what we have learned? That is how I stumbled onto the field.

I have thought a lot about my place in the discipline, but it took thirty years to write about it. Why then did I take on this combination of retrospective and prospective on my work vis a vis the Assembly, one of the curious challenges of my professional life? Because it marks a passage that I somehow survived. Because I used to run into my would-be mentor Janet Emig annually at our national conference--on an escalator, in a lobby, at a restaurant, one year at a Crate and Barrel. Because I admit that I made the wrong choice 25 years ago when her office told me that I was too close to the end of my course work to switch to my first love, clinical psychology. Because it achieves a spiritual reconciliation that had been missing from my professional life. Because I stayed.

By way of introduction—a longish story about graduate school. As a returning adult student of 32 I entered the Rutgers University graduate program in English Education in 1971. It was a time when linguistics was not yet fully appreciated by English educators. It was a time before such a thing as a rhetoric/comp course, much less a rhetoric/comp program. It was a time when the Ed.D. itself was falling from grace. But no one at the Graduate School of Education told me--because the university granted that degree and the faculty themselves held it. It was a time when English education was the only way you got to study writing, write, and talk about it; when keeping a journal was experimental in the academy, as fresh as after-shave lotion. The Bendix of personal computers was still a decade away.

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TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

Having been out of college for eight years at the time, I remember being scared that I could no longer alphabetize, that I couldn't use the card catalog. But what I lacked in confidence was more than made up for in enthusiasm. The English education department was small, constituted by a senior faculty member Janet Emig and a male junior colleague, but our classes were fresh and spirited. We read. We talked. We wrote. We heard speakers. We presented lessons. We moved our bodies and our minds. We became serious about ourselves. We seemed to make up our courses as we went along.

Janet applauded the publication of my first article, "Basic Beginnings" –whose first line started: What do we feel? What do we feel? Published in Language Arts. She validated my work, instantly approving the first dissertation topic I ever mentioned to her--the therapeutic benefits of writing—being as I was fully ignorant at the time about its dubious reception by the field and the liability it became. And without knowing it, I was already out of step with mainstream thinking.

She approved of it because it had never been directly examined in English education before. Therapy and writing were realities, and the connection should have come as no surprise to educators. But unheard of was that someone not credentialed in psychology dare articulate it. Writing therapeutically in educational settings remained sub rosa, returning every so often in paradoxical ways: You said it; then you dismissed it, disguised it, or qualified it to make it palatable. She pronounced me her "first real graduate student." I didn't recognize this period as the last of my salad days.

I was an innocent on at least two institutional levels. **First,** the curious politics of the campus administration. Academic prejudices against the Ed.D. kept Janet from teaching freely at several of the university colleges. It was also about relocating geographically that she threatened time and time again for herself and suggested for me. Then there was the growing acrimony between the two faculty members themselves. She came into the university as a tenured full professor. His promotion to full professor was denied at least once. She was a star just rising; he was receding into disciplinary obscurity. There were philosophical issues, life style issues, differences in temperament, rivalries— the extent of their prominence, her deanship, sabbaticals in the balance. Toward the end, it became harder and harder for the two faculty to talk to each other. Some graduate students understood the political climate far better than I did. Only a savvy few could keep it at bay.

I was not one of them. I didn't recognize the department's bad blood rising around me. That was a **second** vein of disaffection—one which inevitably involved students. I was unprepared for the split loyalties. Due to one of their sabbaticals, at some point I had to switch advisors. And in so doing, I ended up on the wrong side, with the lesser-known professor. I was relieved. I was plainly frightened of Janet--a classic uncertainty of returning adult students, especially me. I simply didn't think I could live up to her standards. Several of us admitted that belatedly. I still did not know myself—that I could do it.

Once I was invited to a gathering at her home with other graduate students. I suspect it was not easy for her, an unabashedly private person and beset by her own difficulties. On a snowy night, I got lost and came terribly late. It was wooded. It was dark. It was cold. I arrived alone. I was afraid. She was without peer; we all knew it by this time. She was brilliant, guarded, if not impenetrable, certainly intimidating.

By that time I was writing Op-Ed pieces for *The New York Times*, publishing scholarly articles and poetry. The junior professor was growing more and more unhappy about that. The more I published, the edgier he became. Wedged between the two faculty members, I exacerbated their estrangement from each other but I also served as their common enemy. Because I taught public school and had a family of three, I did not enjoy the luxury of time that permitted the full-time graduate students to hang around the office and the thermofax, using the university stationery, falling all over each other, getting the low-down, currying whatever favor they could. I shrugged it off as a priority lower than my family--at first.

I had worked doggedly in the program for eight years: taking courses, writing, teaching full-time, while maintaining a home and raising children. I was publishing. Janet told me I came on too strong. I rode roughshod over people. And this must have been true. I was going too fast. And this perhaps was also true. The feminist movement in 1972 hit me powerfully. Where had I been? I was single-minded about taking my degree. Nothing could stop me. I wanted to catch up, if not win—of which I did neither. I didn't realize how angry I had become: tense, harassed daily at my secondary school, at odds with my family, demanding of, yet ignoring my children, and entering counseling to save my marriage. Not many relationships survived doctorates in those days. Breakups abounded. There was little protection from them if students took their doctorates seriously. But Janet and her colleague were insensitive to my frustrations. Graduate students

learned quickly to walk on egg shells around theirs. Although I tried being deferent, I did not play the fawning, flattery card as I perhaps should have. I had to make up for lost time. I had something to prove.

So a number of factors kept me unenlightened and at the fringe of professional activity. In the end, I had fallen out of favor.

I got my degree. But unanchored and unsheltered, I entered the profession on my own. I revised my academic history during a period when positions were becoming rare--despite books to my credit, several articles, and strong teaching evaluations. Janet's name was magical, but not for me. Other students surely had a lot more reasons to remain in the field than me. They knew the ropes. I didn't. I did not choose a mainstream dissertation. Why would I know any better how to interview for a job? Whose name to mention or whose not to? How to network? No one told me how to act politically correct, to have my books reviewed by the right persons in the right journals.

I was apparently not alone. Over time, in such a university climate inhospitable to English education, I understand that fewer and fewer of us lasted. Apart from the reality that the Ph.D. in rhetoric and composition was overtaking the Ed.D., the fact was that newer Rutgers graduate students were unwilling to be positioned even at the margins of such a complex, internal feud. Word eventually got out, shrinking the program until it virtually disappeared. Meanwhile, the field became overwhelmingly cognitive—analogous to the Back to Basics movement in the larger educational picture.

And I am still not alone. We all know colleagues, junior faculty, advanced graduate students who have been vulnerable – whom we have lost one way or another. Yet, how did it happen that our own schooling—purportedly barren of feeling-- got us interested in this movement—the very experience we appreciate today-- and what in our education enabled us to know that it was incomplete without healthy emotion—therapy in its largest sense--to complete the educational process.

The trajectory of my interests has always involved emotion. From the simple question I asked in 1975, what do we feel, I moved to the beneficial psychological effects of writing, then onto empirically identifying the emotions involved in writing, to discussions of social emotions,

to a emotional/cognitive continuum of emotion to where I am now--the deepest most empirical root of emotion—the brain.

My own research in 1998 told me that I was right all the while, the neuroscientific technology of the 1990s has indeed caught up with my 1975 intuitions. And those intuitions and interests of this group.

I was first drawn to brain biology in the mid 1990s because I was trying to find a way to talk about emotion and language besides in opposition to cognition. I was angry with cognitive scientists for insisting that intellectual enterprises have sovereignty over emotion, for insisting that with the human intellect comes an objective reality, an ineluctable truth. We now acknowledge through such terms as social construction, cultural indeterminacy, and interpretation that this is phenomenologically a lie. But cognitivists in general are slow to come to terms with the evolutionary given that affective processes determine the "life and death selection" of behavior at most every level (Brown 408).

On August 15, 1989 *The New York Times* (Goleman) reported that neuroscientist Joseph LeDoux, experimenting with animals, discovered nerve pathways that led *directly* to a small structure buried in the brain called the amygdala. According to LeDoux, when, for example, you think you see something that looks like a snake, the amygdala gets the message 40 milliseconds before the intellectual part of your brain does. You jump because your emotions react first, not because you reasoned through the danger of the snake. William James hypothesized this for basic emotions like fear and anger about 100 years ago.

When LeDoux confirmed what philosopher Bain, psychologist Bartlett, social scientist Zajonc, and others (Brand *Psychology;* "Defining") claimed of emotional primacy, I found it in brain biology. I found new evidence for committing our energies to the entire affective continuum from arousal to human values. And I found much to celebrate about our cognitive biology.

Our profession has passed through this territory before: Emig, Shook, and Rico and Claggett—as a hook for articles on language and rhetoric, but rarely for articles on the biology of writing and never on healing. Indeed, cognition, emotion, memory, and language come together in the brain. That is why we should study it.

But how could I talk about the brain to colleagues, so that it would be interesting, understandable, and relevant? How could I tell colleagues I was no longer afraid to be confused by its convoluted processes or its technical terms? I was no longer afraid to mispronounce a term, and I wished to pass this courage on. I was learning how the mind arises from the brain as a physical entity in evolutionary history; how such a discussion tells us who and how we are; the very rightness of knowing how we know; how brain science helps explain learning; how the properties of language that the brain empowers us with make for change--the quintessential basis of healing. So let me spend the rest of my time on this subject.

Components of the Brain

The *hindbrain* is part of the brain stem and spinal column and, as such, is the oldest part of the brain. It is charged with our nonspecific states of alertness, arousal, and gross adaptive behaviors. controls the involuntary (respiratory, circulatory, digestive) systems. The next and smallest section of the brain stem is the *midbrain* (sometimes considered part of the upper brain stem). Houses primitive sensory centers developed to perceive from a distance (Heath 5; Penrose 380-2). Both hindbrain and midbrain control the automatic or unconscious aspects of behavior.

The newest and largest section, the *forebrain or cerebrum*, is divided into two cerebral hemispheres. Covering the surface of the cerebral hemispheres is the outer layer of gray matter, 60% of which makes up the gray neocortex or associative cortex and 40%, specific motor and sensory regions.

In the deepest recesses of the forebrain sit the thalamus (a relay system), hypothalamus (a system that regulates our internal environment), hippocampus, and amygdala, part of the relatively hard-wired structure of the proto or reptilian brain called the limbic lobe. The limbic lobe had initially such rudimentary but crucial emotional responses as approach and withdrawal and gustatory and reproductive functions, which are in many respects as affective as they are organic. In fact, some neuroscientists (MacLean; Papez) have called the limbic lobe the visceral brain--suggesting how closely it is allied to these organic functions.

For many years the conventional thinking was that our reticular system aroused, our limbic system "felt," and our neocortex, the thinking part of our brain, controlled.

Cognitive Therapy

This last is particularly true in contemporary therapy. Since the higher brain emerged after the proto brain, it makes sense that the prevailing view of how therapy works is that the cortex exerts top down or executive control or inhibition (of the emotional excesses) of the subcortex within the limbic area.

The standard cognitive position is that to evaluate stimuli, the brain analyzes the situation *before* producing the emotional response and/or emotional experience (Lazarus, Mandler). At the risk of oversimplifying, these mental "analyses" may in principle be considered of two kinds: One is purely informational—that is, subjectively neutral—if that is even possible; the other relates stimuli to the self and thus carries emotion (most often negative) with it. The former occurs in the absence of feeling. Linked to emotion, the latter would require more elaborate mental processing of the stimulus and its meaning.

Assessing the affective significance of experience is considered a cognitive process under several circumstances. Most obvious, as feelings ascend the biochemical pathways and arrive in consciousness, one way to express and/or communicate them is by naming them. We make language. A profound cognitive act. In other instances, affective arousal is ambiguous until the cortex does a meaning analysis of the situation--also cognitive. In still other situations, when feelings are complicated like shame, pride, frustration, and anxiety[1] (Brand *Psychology*; LeDoux), sensory signals also pass to the neocortex for analysis of meaning and integration. To break the anxiety is to break the thought.

Emotional biology: Limbic System

Research indicates that the limbic system of the paleocortex is responsible for the "*uncognized* universal *psychobiological* experiences" (Kleinman 173), similar to those of lower mammals. The capacity of lower animals for *learning* and *remembering* the significance of internal and external events is built into the brain. It is organic and adaptive, but it is limited. The hippocampus (seahorse), a principal part of the limbic lobe, is considered central to healing--but for reasons other than what would be assumed by its neurological and anatomical proximity to other limbic structures (LeDoux "Cognitive" 269; O'Keefe and Nadel). Given its location, the

[1]Anxiety, the hallmark of neurotic dysfunction, has been shown to be a complex "cognitive emotion," having both negative and positive components (Brand *Psychology*).

hippocampus would be expected to regulate affective experience. Oddly enough, the hippocampus participates in healing to the extent that psychotherapy occurs on the cognitive level.—actually arguing against the limbic system.

This is what it does. The hippocampus is responsible for processing spatial, configural, contextual, and relational information when nonemotional or cognitive aspects of a task require it (LeDoux "Emotional" 70). This is called cognitive mapping in which it is theorized that we build psychological maps of meaning and space. regulates semantic maps and physical or spatial maps--including the visual forms of words (O'Keefe and Nadel; Wheeler A10). And thus form long-term context specific memory for episodes and narratives (O'Keefe and Nadel 410).

It is best known for: its participation in the conscious, declarative, explicit recollection of events--the key to intellectual functioning. Put another way, although memories per se are not stored in it, the hippocampus is essential for laying them down permanently (Neimark 46; O'Keefe and Nadel).

One important aspect of hippocampal activity is accounting for autobiographical memory, emotional or not. However, as we may realize from our own experience, autobiographical memory starts at about age three or four and that is because the hippocampus is not fully mature at birth. But, relative to the hippocampus, the amygdala is (LeDoux "Cognitive" 281).

Amygdala

Therefore, if the limbic area survives as a contributor to human mental experience, the newest literature indicates that it is due not only to the cognitive work of the hippocampus but also to a tiny almond-shaped structure called the *amygdala*. Exquisitely sensitive, the amygdala gives affective significance to events. Considering its size, the amygdala is so densely differentiated as to demonstrate "how rich the human neural substrate" is for emotions.

Moreover, because of its early maturation and the intimate relationship between memory and emotion (Aggleton and Mishkin 296; Heath 32; LeDoux "Cognitive"), it is responsible for the first nondeclarative, implicit, or unconscious memories that are lost to the hippocampus. The results of those autobiographical memories may be experienced, but their reasons can only be inferred. At the anatomical crossroads of the cortex and limbic system, it is thus a major player in healing.

The question is: How do we know unconscious memories are there if we can't retrieve them: we have preferences, certain intuitions, deja vue, and so on that we cannot otherwise account for. Look at what the amydala does. Particularly labile among the neural circuits (LeDoux "Emotional"), the amygdala and other structures of the brain **share** certain activities:

1. with the hypothalamus, **is responsible for** the seat of the biological impulses of aggression, sex, pleasure, rage, fear, and hunger (Aggleton and Mishkin 296; Fonberg 320).
2. With the hypothalamus, **contributes to** base motivational states (Fonberg 303), an essential form of emotion (Brand "Defining"). So that "a hungry [person] may be less fearful than a satiated one" (LeDoux "Emotional" 76)--hunger being more rudimentary than fear.
3. with the hippocampus results in deep memory. This means that memory comes to exist "independently" of the hippocampus[2] but still influences experience (Neimark). It is as if memory is burned into the brain.
4. with the hippocampus on the **context** of stimuli (LeDoux "Emotional" 73) when ambiguity in the internal or external environment requires conscious consideration (71).
5. with the thalamus is responsible for infant memory not available to the hippocampus (LeDoux "Cognitive" 275, 281).
6. with the hippocampus facilitates sensory integration, converting *specific* sensory input (olfactory, auditory) into feelings and behavior according to their emotional value, for example, fear that is learned through hearing (LeDoux "Emotional" 76).

However, what deserves notice is that the amygdala also *bypasses* the cortex or "cognitive" brain. Not elaborate but basic emotions from their initial sensory or internal phases yield information *directly* to the muscles and viscera for behavioral, autonomic, or humoral response, *unmediated* by the the intellectual apparatus. The amygdala also converts sensory input *directly* into feelings (LeDoux "Cognitive" 272; Zajonc). For example, LeDoux's studies on fear found a *direct* path between the thalamus and amygdala bypassing the hippocampus, which "allows the amygdala to respond faster" than the hippocampus to a stimulus, the hippocampus "being separated from the thalamus by several [more] synapses" (Murphy and Zajonc 57-58). The amygdala can register "memory before it even reaches our senses..." (Neimark 46). As a

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[2] This is called long-term potentiation.

result, "emotional responses can be rapidly initiated on the basis of crude stimulus properties prior to and independent of..." the intellect (LeDoux "Cognitive" 272)--just like when seeing the snake.

Activity that operates through the amygdala, though less complete than those involving complex transformations, allows us to like something without knowing exactly what it is, to feel good or bad without knowing precisely why (Nisbett and Wilson). The existence of multiple connections returning to various sensory areas from the amygdala may also explain why one stimulus event can trigger several memories (Mishkin and Appenzeller 88).

Events passing through the amygdala are rapidly learned and long lasting. What's more, once our emotional system learns something, we may never let it completely go. This means that in any given situation fundamental feelings may be more immediate than the intellect, however crucial both are for learning and remembering.

Conscious Healing

The point in all this is that, if we did not believe in learning and remembering, we could not believe in healing. But we also cannot believe in learning and memory without also believing in emotion (Bartlett). The amygdala influences *what* gets stored and the *strength* with which it gets stored because the amygdala **reads** emotions. And "[e]motion is the determinant in the learning experience from which consciousness evolves" (Heath 6).

While it is clear that much learning is spontaneous and incidental and some of the best learning cannot be articulated, the ability to undertake therapy, in our case, through language, is in no small matter due to our consciousness. While learning and memory are not necessarily based in language, when they intersect in consciousness, healing is enabled. And we thus have something called Emotional Intelligence.

For all intents and purposes, we have no mind without consciousness. "Consciousness arises from a special set of relationships between external signals or percepts, internal categories or concepts, and memory (Edelman *Bright* 149). The gradual specialization and connection of phonemic and symbolic memory provide the neural seedbed for legitimate language. With primary consciousness begins speech, semantic capabilities, and higher-order consciousness (Edelman *Remembered* 103; *Bright* 149). This also refers to our reportable subjective life (*Remembered* 24). We are conscious of being conscious (*Bright* 131).

It is clear that we did not need language to survive. As a matter of fact, the primitive brain is protected by the skull and the neocortex--for good reason: We could not survive without the old cortex, but we could survive without the new cortex into which the cognitive functions are built. And in fact have. Lower animals like chimpanzees imitate, participate in means-end reasoning, exhibit a rudimentary self-concept, and are capable of simple semantics. In short, they think in very limited ways (Edelman *Bright* 125; Gazzaniga 104-105). But "since language and cognition probably represent the most salient and the most novel biological traits of our species... it is ... important to show that they may well have arisen from extra-adaptive mechanisms" (Piatelli-Palmarini in Gazzaniga 9), those unnecessary for survival—like the Twin Towers, The Oscars, or MTV.

In the end, the paths between the proto brain and the neocortex are bi-directional. "[N]eurological control structures have dual activations, one from below--from the emotions--one from above--the intellect" (Norman 1981, 282). Our self-conscious mind exercises a superior interpretive role on neural events. The neocortex governs and corrects emotional expression on the basis of rational thought. At the polar opposite, our emotional apparatus keeps us alive. It makes sure we breathe, eat, stay warm, and procreate. The important idea here is that the higher-order consciousness linked to healing is a developmental and socially constituted process--bottom-up, from childhood into adulthood, from biology to rationality--a biology of a vastly different sort) (Brand "Defining").

In the bottom-up model the causal arrow runs from arousal to emotion to high-order consciousness (Brand 1994). Then top-down. Over time emotions shape higher-order consciousness which they then reflect. Only then (but actually all along in endless layer and loop fashion) do we ascribe higher-order consciousness to experience. Only then does higher order consciousness occupy a position more central than cognition and emotion –only then does it bring them into line and regulate response. Only then does cognitive content shape emotion and behavior. All the while our biology acts as a filter for sensory information, letting some data in and keeping other data out (Brand 1994; Kosslyn in Wheeler 1994).

But I must emphasize one point. Emotions do not exist merely to be harnessed by the intellect or to insure reproduction of the species. As the frontal lobe of the forebrain emerged, it incorporated the old brain into itself for higher-order mental activity. "Without the activation and

arousal systems of the proto reptilian brain stem, we could not achieve the attentional control required for tenacious reasoning or for an expansive imagination" (Tucker, Vannetta, and Rothlind 163-164).

Given our phylogenetic and ontogenetic history, there appears to be more neuronal flexibility, more plasticity in the brain than we would have believed. It therefore matters greatly what we do with our students in the habitat called the mind or the classroom. Composition studies bears a deep ignorance about what makes our students tick. As a field, we have studied language from virtually every vantage point except from that of its potential for emotional intelligence. Until professor Patrick Healey at UC-Irvine introduced it, emotion did not exist in the biocurriculum. Well, it hasn't existed in the language curriculum either. Except for the work of Brand in 1980 and that of Kelly a decade later, little has been done to make visible and acceptable the salutary effects of writing in writing education. My study reported in *Therapy in Writing* about a deliberate attempt to help young persons in their personal becoming was published at a time when such direct discussions were simply out of the question. We bear an astonishing immunity to the psychological lives of students.

Yet, when things are stalled in a classroom it is because of emotion. When things go well, it is also because of emotional intelligence. I have tried to show anatomically why: The circuitry of the amygdala that sends projections into several cortical regions makes a crucial affective contribution to the parts of the brain involved in cognition (the neocortex and hippocampus). It increases cognitive efficiency and is in fact needed to perform certain tasks. But the amygdala also by-passes those regions. Simply stated, research suggests that the brain can perform some tasks without the cortical regions but not without the amygdala (LeDoux "Brain"; Mishkin and Appenzeller).

Because the amygdala can circumvent the cortex, the emotional tone of an stimulus may be dissociated from the conscious content of the stimulus. Studies show that although persons may not consciously know what the stimuli are, they are able to access how they feel about them (LeDoux "Brain" 205). As Patricia Goedicke says/applies emotional intelligence:

> '[K]nowing what we feel,' joining the body and mind...is [particularly] the business of writers....Interpreting what our bodies tell us....Figuring out what we mean, then what we really want to mean....Paying attention...to the road signs of the senses. Mapping

> ourselves. And then 'composing ourselves,' arranging and rearranging the notes we've made into [texts] that will truly represent... whatever it is we think we feel (Goedicke 17).

Among educational goals psychological health cannot be incidental. H.G. Wells once put it well: human history becomes more and more a race between catastrophe and education. Whether we like it or not the mind-body relationship is so powerful that it is humanly impossible to dissociate the two without grave consequences. We make a serious mistake by not helping students address their psychological lives, to continually humanize themselves. Some adaptation for education of the learning process that takes place in psychotherapy seems like a promising possibility. Students make peace with themselves by writing about their experiences; they understand what is happening around them.

If learning and memory are defined by the capacity to make changes and remember them, then healing through language has evolved from the ability of the brain to modify thoughts, feelings, and behavior. It is nothing short of astonishing that in some way my words alter the neurons in my brain, the impulses of my motor cortex, the contractions of my muscles, and the design of my activities. In a word, thoughts change behavior. If we did not believe in change, we could not believe in therapy. Learning and memory may recruit cognitive processes as the negotiated symbol system, but healing almost always begins and ends in emotion. As central as cognition is, without emotion, memory and learning could not occur. And what is healing if not learning.

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